

**Southern California Cooperative Wind Tunnel Modification
Proposal Document Collection, 1950-1958
0.6 cubic feet
JPL 71**

History

The Southern California Cooperative Wind Tunnel (CWT) was designed by the California Institute of Technology in 1941-1942 and became operational in 1945. Designed to provide a wind tunnel for local aerospace companies, the facility was located near the Caltech campus and operated by Caltech under a cooperative agreement with Consolidated-Vultee, Douglas, Lockheed, North American, and McDonnell aircraft corporations. The wind tunnel was constructed to the same specifications as the Cornell Aeronautical Laboratory (CAL) wind tunnel, and employed a staff of over 130 specialists. Clark B. Millikan described the specifics of the tunnel's operation in a July 1945 *Aviation* article (copy located in the JPL Archives History Collection 3-1197).

In the late 1940's, it became clear that the Southern California Cooperative Wind Tunnel would need modifications costing approximately \$3,000,000 to accommodate transonic and supersonic range testing at Mach numbers near and greater than 1. Aircraft manufacturers were moving into a new era of higher flight speeds. The modifications proposed increasing the horsepower of the liquid-rheostat-controlled fan motor from 10,000 H.P. to 32,000 or 40,000 H.P., and possibly upgrading the main drive and fan system.

Provenance

Truman Stivers of Stivers Leasing Company donated the collection to the JPL Archives on two different dates. Photographs were received on May 2, 1991 (Accession 91-31); printed materials were received on June 11, 1991 (Accession 91-40). The two accessions have been combined.

Mr. Stivers reportedly found the materials in one of his rental properties, left behind by an unidentified previous tenant.

Collection Arrangement and Description

The collection describes in detail the evaluation of the existing facility and its proposed modifications with schematics, engineering drawings, and financial estimates.

The collection contains a group of engineering reports and seventy-one 4" x 5" black and white construction photographs. The engineering reports are arranged in chronological/report number order. The photographs (numbered on their reverse sides 1-71) are arranged in numerical order.

Conservation/Preservation

Standard preparations for long term storage of documents were made.

Separation Statement

No elements of the collection were separated.

Finding Aids

Register available in the repository.

File Folder List

BOX 1

- Fld 1 A Proposal for Modifying the Southern California Cooperative Wind Tunnel for Transonic and Supersonic Operation, January 1950.
- Fld 2 A Proposal for Modifying the Southern California Cooperative Wind Tunnel for Transonic and Supersonic Operation, January 1950. (Includes cut-away engineering illustration).
- Fld 3 Stress Analysis of Southern California Cooperative Wind Tunnel, CWT Report T-22, prepared by Harold Omsted and Mark Serrurier, n.d.
- Fld 4 Initial Study and Recommendations for a Hypersonic Impulse-Type Wind Tunnel with Near Aero-Thermodynamic Simulation, prepared by J. M. Spiegel, CWT Report T-80, June 30, 1958.
- Fld 5 Initial Study and Cost Estimate for a Mach 5 to 10 Hypersonic Wind Tunnel, prepared by J. M. Spiegel, CWT Report T-84, January 8, 1959.

BOX 2

71 positive photographic prints (4x5 inches; black and white; sleeved; in numerical order).
Numbering apparently does not refer to any collection of negatives.

Catalog Description

Southern California Cooperative Wind Tunnel Modification Proposal Document Collection, 1950-1958.
0.6 cubic ft. in 5 folders.

71 positive photographic prints (4x5 inches; black and white; sleeved).

The Southern California Cooperative Wind Tunnel (CWT) was a facility constructed in the 1940's. It was operated by the California Institute of Technology to perform aerodynamic testing for a consortium of Southern California aerospace companies. This collection is a group of proposals and studies completed in the 1950's with the intent to upgrade the Southern California Cooperative Wind Tunnel so that it could accommodate testing at transonic and supersonic speeds.

Tracings

California Institute of Technology.
Southern California Cooperative Wind Tunnel.
Transonic Wind Tunnels
Supersonic Wind Tunnels
Subsonic Wind Tunnels
Wind Tunnel Tests
Aerodynamics
Stivers, Truman.

Accession 91-31

Accession 91-40